Claims

[c1]   What is claimed is:

1. A digital signal modulation method for attaching bits of a predetermined number next to each one of a plurality of first bit streams in order to generate a plurality of second bit streams, the method comprising:

(a) adjusting the bits of the predetermined number attached to a following plurality of first bit streams after generating the plurality of the second bit streams, according to the variation of a digital sum value (DSV) corresponding to the plurality of bits in the plurality of second bit streams; and

(b) attaching the bits in the predetermined number to the first bit stream, according to Step (a) and the DSV of each bit in the following plurality of first bit streams after generating the plurality of the second bit streams, in order to make the DSV of the bits of a following plurality of second bit streams after generating the plurality of the second bit streams approach 0.

[c2]   2. The method of claim 1, further comprising before performing Step (a) and Step (b), according to the DSV of the bits in the plurality of first streams, attaching the

bits of the predetermined number to the first bit stream in order to generate the second bit stream corresponding to the first bit stream.

[c3] 3. The method of claim 1, further comprising storing the DSV corresponding to the plurality of bits into a memory.

[c4] 4. The method of claim 1, applied in an optical disk being a CD, each of the first bit streams being 14 bits, and Step(a) being attaching 3 bits next to the first bit stream in order to generate the second bit stream of 17 bits.

[c5] 5. The method of claim 1, further comprising modulating 8-bit digital signals into the 14-bit first bit streams.

[c6] 6. The method of claim 1, applied in an optical disk being a DVD, each of the first bit streams being 8-bit, and Step (a) being attaching 8 bits next to the first bit stream in order to generate the second bit stream of 16 bits.

[c7] 7. The method of claim 1, wherein Step (a) comprises selecting a modulating code that makes the DSV corresponding to each bit in a frame approach 0, from a main conversion table and a substitution table and according to whether the DSV corresponding to each bit in the frame deviates from or approaches 0, to be the bits in the predetermined number, and Step (b) comprises selecting a modulating code that makes the DSV corre-

sponding to each bit in the frame deviate from 0, from the main conversion table and the substitution table and according to whether the DSV corresponding to each bit in the frame deviates from or approaches 0, to be the bits in the predetermined number.